

# Control of Cutworms on Citrus

infestations of pest in certain areas of southern California in May 1954 controlled by spray treatment

E. Laurence Atkins, Jr.



Injury to new foliage and newly set fruit caused by the citrus cutworm.

**Cutworms** caused economic damage to citrus in the spring of 1954 in the Redlands-Pomona and Riverside-Arlington areas.

The damage was general and particularly serious in approximately 5,000 acres in the Redlands and adjoining areas.

The cutworms feed on the new spring flush of growth and on the newly set fruit as well as on ripe or mature fruit. Damage is caused by the larvae feeding on the pistil or tip of the fruit and eating into the sides of the young fruit. The damaged fruit is either permanently scarred or falls from the tree. In several groves attacked this spring, approximately half of the new flush of growth

Citrus cutworm pre-pupa and earthen pupae cell.



and half of the newly set fruit were damaged or destroyed.

The citrus cutworm—*Xylomyges curialis* Grote—is  $\frac{3}{4}$ " to 2" long and is light green with a white stripe along each side. There is considerable variation in the color pattern—some specimens are pinkish or brownish—but there is always a white, longitudinal stripe.

Eggs of the cutworms are laid on the new leaves. The larvae remain on the trees and if dislodged, crawl onto the trees again, either up the trunk or any place where the foliage contacts the ground. Each larva requires three to four weeks to become fully grown, and then drops to the ground. Pupation occurs in a cell in the soil.

Many groves in the affected areas, when examined, showed enough foliage and fruit damage to indicate the necessity of immediate treatment.

It is usually difficult to find the worms on the trees. If an examination of the trees—particularly on the shady sides where the worms are usually feeding and are therefore more easily seen—is made in 15-minute periods and 10 or more cutworms are found on a per-hour basis, it is practical to treat.

Another method which gives an accurate picture of the infestation is to spray several trees in a suspected grove with two pounds of 50% wettable powder of DDT per 100 gallons of water, taking care to obtain a thorough outside coverage. After a period of one to 1½ hours, an examination of the ground under the trees is made for the worms. If 10 or more larvae are found per tree, the grove needs treatment. Some groves tested by the spray method have had up to 400 worms per tree.

For emergency treatment of the citrus cutworm, the following insecti-



Larva of the citrus cutworm *Xylomyges curialis* Grote. Note peculiar white longitudinal stripe.

cides were effective when applied at the rate of 500 to 1,000 gallons per acre to get a thorough outside coverage spray—including the tops of the trees—because cutworms are more or less equally distributed over the trees:

Formula 1. DDT, 50% wettable powder, at the rate of 10 pounds per acre;

Formula 2. Toxaphene, 40% wettable powder, at the rate of 15 pounds per acre;

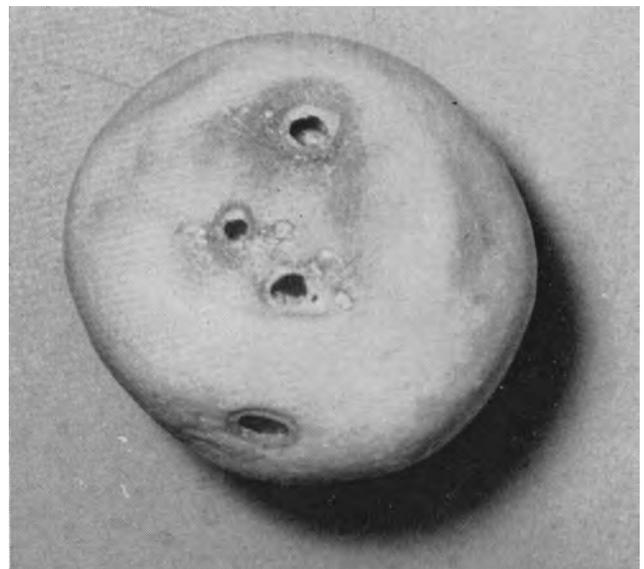
Formula 3. DDD, 50% wettable powder, at the rate of 10 pounds per acre.

Formula 4. Parathion, 25% wettable powder, at the rate of 8 pounds per acre.

When orange tortrix needs treatment in the same grove, DDD or parathion is used because toxaphene and DDT are not effective against the orange tortrix.

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Grapefruit damaged by several citrus cutworms. The cutworms are inside two of the holes in this fruit.



# CUTWORMS

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If the fruit tree leaf roller should need control treatment in the same grove—and there is no orange tortrix—either DDT, DDD or parathion may be used. Toxaphene is not effective against the fruit tree leaf roller.

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For codling moth control on pears	
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U. S. Golf Association, Green Section	
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Life Magazine	
Professional Golf Association	
For studies on turf grass irrigation	
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For research on toxicity to insects of chlordane and/or heptachlor	
Western Condensing Company	1 barrel instant milk
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Hardie Manufacturing Company	4" plug cutter
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Allied Chemical & Dye Corporation	5 gals. Hexachloroacetone 50 gals. agricultural spray oil
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Specialty Products Sales Division	
For research on chemical control of weeds	
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For research in chemical weed control	
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